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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/736,906

12/17/2003

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492322015500

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25227 7590 09/21/2007
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EXAMINER

DANIELS, ANTHONY J

ART UNIT

PAPER NUMBER

2622

MAIL DATE

DELIVERY MODE

09/21/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/736,906

Applicant(s)

IKEDA, OSAMU

Examiner

Anthony J. Daniels

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendment, filed 7/3/2007, has been entered and made of record. Claims 1-7 are pending in the application.

Response to Arguments

1. Applicant's arguments regarding claim 1 and have been fully considered but they are not persuasive.

Applicant states, "...This same [combination of elements in claim 1] is neither disclosed nor suggested by Ito, Tsuchida or any of the other cited references, viewed alone or in combination." In support of this assertion about Ito, applicant states, "...the Action states that Ito's filter portion would provide mechanical support to the semiconductor chip only if Ito's entire camera body 20 were rotated so that the filter rested atop the CCD chip." The examiner respectfully disagrees with these statements and submits that the one about Ito is inaccurate. The examiner stated, "...Rotating Figure 1 of Ito et al. would put the filter resting atop the CCD chip, thereby providing a mechanical support.", in the action (see p. 3, Lines 9-11). This statement by the examiner does not rule out the possibility that the filter mechanically supports the chip some other way. Applicant's statement does.

The specification does not lend support on how the filter provides mechanical support. It only states that the filter is bonded to the chip. Thus, the examiner submits that in light of the specification, Ito and Tsuchida anticipate claim 1. More specifically, Ito teaches that the filter is attached to the chip, and Tsuchida teaches that the filter is cemented. Both forms of bonding are

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consistent with what the specification requires as mechanical support. It is also evident that Tsuchida et al.'s filter is disposed on the photoelectric transducer. If the IR filter were not disposed on the transducers, the filter would be unfit for its intended purpose.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Ito et al. (US # 6,583,819).

As to claim 1, Ito et al. teaches a camera module (Figure 1) comprising: an image sensor chip (Figure 1, CCD area sensor "25") comprising a semiconductor chip having a photoelectronic transducer formed on a surface of the semiconductor chip (Figure 1, light-receptive surface "25a") and a filter portion disposed on the photoelectronic transducer so as to block light incident on the filter portion at a predetermined range of wavelength (Figure 1, infrared filter "24"; Col. 3, Lines 33 and 34); and a lens disposed above the image sensor chip (Figure 1, lens barrel "10"), wherein the filter portion is configured to provide mechanical support to the semiconductor chip regardless of the orientation of the semiconductor chip (Col. 3, Lines 33-34).

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2. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Tsuchida et al. (US # 6,559,439).

As to claim 1, Tsuchida et al. teaches a camera module (Figure 24) comprising: an image sensor chip comprising a semiconductor chip having a photoelectronic transducer formed on a surface of the semiconductor chip (Figure 24, image pickup element chip "62") and a filter portion disposed on the photoelectronic transducer so as to block light incident on the filter portion at a predetermined range of wavelength (Figure 24, IR filter "80"; Col. 21, Lines 32-35); and a lens disposed above the image sensor chip (Figure 24, lens "12"), wherein the filter portion is configured to provide mechanical support to the semiconductor chip regardless the orientation of the semiconductor chip (Col. 21, Lines 32-35).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ito et al. (US # 6,583,819) in view of Hasegawa et al. (US # 6,217,796).

As to claim 3, Ito et al. teaches the camera module of claim 1. The claim differs from Ito et al. in that it further requires that the filter portion comprises a glass plate and a metal film formed on a surface of the glass plate by vapor deposition.

In the same field of endeavor, Hasegawa et al. teaches filters for absorbing near infrared light in which a layer of metal is formed on a glass substrate by vapor deposition (Col. 1, Lines 30-38). In light of the teaching of Hasegawa et al., it would have been obvious to one of ordinary skill in the art to include the vapor deposition implementation of the IR filter in Ito et al., because an artisan of ordinary skill in the art would recognize the versatility and economic advantages of vapor deposition implementation.

2. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuchida et al. (US # 6,559,439) in view of Kimura (US 2002/0057358).

As to claim 4, Tsuchida et al. teaches the camera module of claim 1. The claim differs from Tsuchida et al. in that it further requires that the filter portion comprises a plastic plate and a grating formed on a surface of the plastic plate so as to provide a filtering function.

In the same field of endeavor, Kimura teaches a camera including an optical low pass filter in the optical path of object light. The low pass filter is formed on an IR filter and includes a diffraction grating on a plastic substrate ([0018] - [0019], Lines 1-4). In light of the teaching of Kimura, it would have been obvious to one of ordinary skill in the art to include the low-pass filter of Kimura on the IR filter of Tsuchida et al., because an artisan of ordinary skill in the art would recognize that low-pass filters effectively eliminate moiré fringes.

As to claim 5, Tsuchida et al. teaches the camera module of claim 1. Although it is not stated explicitly in Tsuchida et al., **Official Notice** is taken that doping a glass substrate with copper particles to achieve infrared light suppression in electronic cameras is well known and

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expected in the art. One of ordinary skill in the art would be motivated to do this because copper provides an exceptional infrared light suppression quality when compared with other metals.

3. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito et al. (US # 6,583,819) in view of Nakamura et al. (US # 7,126,637).

As to claim 6, Ito et al. teaches the camera module of claim 1. The claim differs from Ito et al. in that it further requires that the semiconductor chip comprises an electrode pad disposed on the surface of the semiconductor chip that does not have the photoelectronic transducer formed thereon.

In the same field of endeavor, Nakamura et al. teaches an image pickup apparatus which comprises an electrode pad provided through a side surface to a back surface wherein an external terminal is can be electrically connected to the electrode pad (Col. 4, Lines 12-19). In light of the teaching of Nakamura et al., it would have been obvious to one of ordinary skill in the art to include the construction of Nakamura et al. in the apparatus of Ito et al., because an artisan of ordinary skill in the art would recognize that such a construction would provide an optimum structure for electrical connection between the CCD and an external terminal and at the same time allowing for the possibility of various packaging techniques (see Nakamura et al., Col. 4, Lines 20-25)

As to claim 7, Ito et al., as modified by Nakamura et al., teaches the camera module of claim 6, wherein the image sensor chip comprises a terminal for external connection disposed on a back surface of the image sensor chip and connected to the electrode pad (see Nakamura et al., Col. 4, Lines 12-19).

Conclusion

1. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

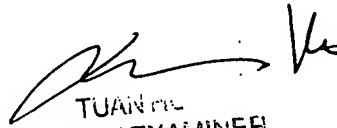
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony J. Daniels whose telephone number is (571) 272-7362. The examiner can normally be reached on 8:00 A.M. - 5:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on (571) 272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AD
9/12/2007


TUAN H. L.
PRIMARY EXAMINER